Kentucky Method 64-109-05
Dated 1/05/05

QUALIFICATION OF STEEL REINFORCEMENT TACK WELDERS

1. SCOPE: This method, based on modifications of the AWS (American Welding Society) Bridge Welding Code A5.1, A5.5, A5.18, or D1.4, current edition, outlines the procedures for qualifying tack welders for welding steel reinforcement. Information herein is taken from Section 605 of the Standard Specifications For Road and Bridge Construction.

2. PROCEDURE:

   2.1. Use the bar stock and welding equipment that is required for fabrication of the steel at the precast or prestress producer's facility. Acceptable electrodes and welding processes are listed in Section 3.

   2.2. Prepare 2 sample tack welds of the following combinations: #3 (10 mm) to #6T (19T mm), #6 (19 mm) to #3T (10T mm), #4 (13 mm) epoxy to #5T (16T mm), and #5 (16 mm) epoxy to #4T (13T mm) where T is the short bar of the welded intersection. Samples do not necessarily need to be cut from a cage but the long bar should be in the vertical position when tack welded, thereby simulating actual welding conditions.

   2.3. The bar to be tested shall be approximately 24 inches long. The 'T' cross bar shall be 6-8 inches long. The weld shall join the bars at mid length of each bar.

   2.4. Prepare the samples in the presence of the KYTC Inspector. Securely tape sample pairs together. The Inspector will deliver test samples (and the appropriate forms) to the Division of Materials Laboratory for evaluation.

   2.5. The Division of Materials' Physical Section will evaluate each sample for tensile strength across the point of the tack weld. Each sample must meet the minimum requirements for tensile and yield strength of the bar stock.

3. ELECTRODES:

   3.1. Shielded Metal-arc Process: Use only electrodes with low hydrogen classifications E7015, E7016, E7018, E7028, E9015, E9016, E9018, or E9028 according to AWS A5.1 or A5.5 as applicable.

   3.2. Gas Metal-arc Process: Use electrode classification ER70S according to AWS A5.18.

4. QUALIFIED STATUS:

4.1. If the welder fails to meet the qualification requirements, he may take a re-test provided two test specimens are welded for each specimen that failed. If the re-test specimens do not meet all requirements, the welder must wait 90 days before he can take the test again.

4.2. Qualified status shall be limited to two years from the date of completion of testing. If the welder is not engaged in the welding process for which he/she is qualified for a period exceeding 6 months or, in the judgment of the Engineer, there is reason to question the welder's ability qualification status may be revoked within that two year period.

4. COST OF TESTING:

4.1. The cost of the materials is the responsibility of the welder or fabricator.

4.2. The cost of testing weld specimens shall be the responsibility of the welder or fabricator. Contact the Physical Section in the Division of Materials to schedule testing and test cost information.

APPROVED _____
Director
DIVISION OF MATERIALS

DATE _____1/20/05_____

Attachment

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Dated 1/20/05

km10905.doc

KENTUCKY TRANSPORTATION CABINET TC 64-752
Division of Materials Rev. 1/20/05

TACK WELDERS
Section 605.03.04

ID NUMBER_____Date Sampled_____

INSPECTOR ID_____INSPECTOR NAME_____

COMPANY NAME_____ LOCATION_____

TYPE OF INSPECTION_____

MATERIAL CODE_____7069_____

INSPECTED QUANTITY_____UNITS_____Each_____

Welder SSN_____ Expiration Date_____

Welder Name_____Previously Approved for KY (Yes)_____ (No)____

Route or Street_____

City_____ State_____Zip Code_____

PCN #_____Project Number_____

Date Received_____Pass/Fail_____Date Complete_____

CHECK APPROVED TACK WELDS

3 + 6T_____ 4E + 5T_____

Carbon Equivalent_____ Carbon Equivalent _____

6 + 3T_____ 5E + 4T_____

Carbon Equivalent_____ Carbon Equivalent _____

WELDING PROCESS TYPE: Shielded Metal-Arc_____ Gas Metal-Arc_____

Electrode or Wire Classification_____ Electrode Size_____Preheat Temperature_____

VISUAL INSPECTION: Appearance _____

Undercut _____ Porosity _____

Inspector Observing Welding_____

Title_____District_____

REMARKS: COPIES:

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